

**Amendment**

**Amendment to Claims**

Claim 1 (currently amended): A method comprising:

in a physically addressable area of a system memory, storing one or more diagnostic modules comprising machine-readable instructions for performing one or more diagnostic procedures of a processing system in response to a boot sequence to initialize the processing system;

hosting loading machine-readable instructions to the system memory in response to the boot sequence for providing an operating system capable of addressing the system memory; and

inhibiting the operating system from remapping the machine-readable instructions stored in the system memory for performing the one or more diagnostic procedures.

Claim 2 (cancelled).

Claim 3 (previously presented): The method of claim 1, wherein the one or more diagnostic modules comprise run-time drivers executable through a firmware interface.

**PATENT APPLICATION**

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**Claim 4 (original): The method of claim 1, wherein the diagnostic procedures comprise diagnostic procedures for testing one or more peripheral devices of the processing system.**

Claim 5 (previously presented): The method of claim 1, the method further comprising:

loading the one or more diagnostic modules to a first physically addressable area of the system memory; and

loading the operating system to a second physically addressable area of the system memory from a non-volatile memory device.

Claim 6 (previously presented): The method of claim 5, the method further comprising loading the one or more diagnostic modules to the first physically addressable area of the system memory from a basic input/output system (BIOS).

Claim 7 (previously presented): The method of claim 1, the method further comprising:

maintaining pointers in a firmware interface to the diagnostic modules at an addressable portion of the system memory; and

converting pointers in the firmware interface in response to a change in virtual addressing by the operating system.

Claim 8 (currently amended): An apparatus comprising:

~~a processor~~ processing system comprising a memory;

~~a memory to store data;~~

logic to store in a physically addressable area of the memory one or more diagnostic modules comprising machine-readable instructions for performing one

or more diagnostic procedures of a processing system in response to a boot sequence to initialize the processing system;

logic to load machine-readable instructions of an operating system to the memory in response to the boot sequence, the operating system being capable of initiating execution of the one or more diagnostic procedures on the ~~processor~~ processing system; and

logic to inhibit the operating system from remapping the machine-readable instructions for performing the one or more diagnostic procedures from the physically addressable area.

Claim 9 (Cancelled).

Claim 10 (previously presented): The apparatus of claim 8, wherein the one or more diagnostic modules comprise run-time drivers executable by the operating system through a firmware interface.

Claim 11 (original): The apparatus of claim 8, wherein the diagnostic procedures comprise diagnostic procedures for testing one or more peripheral devices of the processing system.

Claim 12 (previously presented): The apparatus of claim 8, the apparatus further comprising:

logic to load the one or more diagnostic modules to a first physically addressable area of the memory; and

logic to load the operating system to a second physically addressable area of the memory from a non-volatile memory device.

Claim 13 (previously presented): The apparatus of claim 12, the apparatus further comprising a basic input/output system (BIOS) comprising logic to load the one or more diagnostic modules to the first physically addressable area of the memory.

Claim 14 (previously presented): The apparatus of 8, the apparatus further comprising:

logic to maintain pointers in a firmware interface to the diagnostic modules at an addressable portion of the storage medium; and

logic to convert pointers in the firmware interface in response to a change in virtual addressing by the operating system.

Claim 15 (currently amended): A circuit for initiating a boot sequence for a processing system, the circuit comprising:

logic to store in a physically addressable area of a storage medium one or more diagnostic modules comprising machine-readable instructions for performing one or more diagnostic procedures of a processing system in response to the boot sequence;

logic to ~~initiate~~ store machine-readable instructions of an operating system in the storage medium in response to the boot sequence ,the operating system being capable of addressing the storage medium; and

logic to inhibit the operating system from remapping the machine-readable instructions for performing the one or more diagnostic procedures in the storage medium.

Claim 16 (original): The circuit of claim 15, wherein the circuit comprises a basic input/output system (BIOS) adapted to integrate with the processing system.

Claim 17 (Cancelled).

Claim 18 (previously presented): The circuit of claim 15, wherein the one or more diagnostic modules comprise run-time drivers executable by the operating system through a firmware interface.

Claim 19 (Original): The circuit of claim 15, wherein the diagnostic procedures comprise diagnostic procedures for testing one or more peripheral devices of the processing system.

Claim 20 (previously presented): The circuit of claim 15, the circuit further comprising:

logic to load the one or more diagnostic modules to a first physically addressable area of the storage medium;and

logic to load the operating system to a second physically addressable area of the storage medium from a non-volatile memory device.

Claim 21 (previously presented): The circuit of claim 20, the circuit further comprising a basic input/output system (BIOS) comprising logic to load the one or more diagnostic modules to the first physically addressable area of the storage medium.

Claim 22 (previously presented): The circuit of claim 15, the circuit further comprising:

logic to maintain pointers in the firmware interface to the diagnostic modules at an addressable portion of the storage medium; and

logic to convert pointers in the firmware interface in response to a change in virtual addressing by the operating system.

Claim 23 (currently amended): An article comprising:

a storage medium comprising machine-readable instructions stored thereon for:

initiating storage of machine-readable instructions for performing one or more diagnostic procedures of a processing system in a first physical area of a memory in response to a boot sequence to initialize the processing system;

initiating storage of machine-readable instructions for executing an operating system for the processing system in a second physical area of the memory in response to the boot sequence; and

inhibiting the operating system from remapping the machine readable instructions for performing the one or more diagnostic procedures in the first physical area of the memory.

Claim 24 (Cancelled).

Claim 25 (previously presented): The article of claim 23, wherein the one or more diagnostic modules comprise run-time drivers executable by the operating system through a firmware interface.

Claim 26 (Original): The article of claim 23, wherein the diagnostic procedures comprise diagnostic procedures for testing one or more peripheral devices of the processing system.

Claim 27 (Cancelled).

Claim 28 (previously presented): The article of claim 23, wherein the storage medium further comprises machine readable instructions stored thereon for loading the one or more diagnostic modules to the physically area of the memory from a basic input/output system (BIOS).



Claim 29 (currently amended): The article of claim 23, wherein the storage medium further comprises machine-readable instructions stored thereon for:

maintaining pointers in a firmware interface to the diagnostic modules at an addressable portion of the memory;-and

converting pointers in the firmware interface in response to a change in virtual addressing by the operating system.

Claim 30 (previously presented): A method comprising:

in a storage medium, storing one or more diagnostic modules comprising machine-readable instructions for performing one or more diagnostic procedures of a processing system;

hosting an operating system capable of addressing the storage medium, wherein the operating system is capable of initiating execution of the one or more diagnostic procedures through a firmware interface;

maintaining pointers in the firmware interface to the diagnostic modules at an addressable portion of the storage medium; and

converting pointers in the firmware interface in response to a change in virtual addressing by the operating system.

Claim 31 (previously presented): The method of claim 30, wherein the one or more diagnostic modules comprise run-time drivers executable through the firmware interface.

Claim 32 (previously presented): The method of claim 30, wherein the diagnostic procedures comprise diagnostic procedures for testing one or more peripheral devices of the processing system.

Claim 33 (previously presented): The method of claim 30, the method further comprising:

loading the one or more diagnostic modules to a first physically addressable area of the storage medium; and

loading the operating system to a second physically addressable area of the storage medium.

Claim 34 (previously presented): The method of claim 33, the method further comprising loading the one or more diagnostic modules to the physically addressable area of the storage medium from a basic input/output system (BIOS).

35 (previously presented): An apparatus comprising:

a processor;

a memory to store data;

logic to store in the memory one or more diagnostic modules comprising machine-readable instructions for performing one or more diagnostic procedures of a processing system;

an operating system capable of initiating execution of the one or more diagnostic procedures on the processor through a firmware interface;

logic to maintain pointers in the firmware interface to the diagnostic modules at an addressable portion of the storage medium; and

logic to convert pointers in the firmware interface in response to a change in virtual addressing by the operating system.

Claim 36 (previously presented): The apparatus of claim 35, wherein the one or more diagnostic modules comprise run-time drivers executable through the firmware interface.

Claim 37 (previously presented): The apparatus of claim 35, wherein the diagnostic procedures comprise diagnostic procedures for testing one or more peripheral devices of the processing system.

Claim 38 (previously presented): The apparatus of claim 35, the apparatus further comprising:

logic to load the one or more diagnostic modules to a first physically addressable area of a system memory; and

logic to load the operating system to a second physically addressable area of the system memory from a non-volatile memory device.

Claim 39 (previously presented): The apparatus of claim 38, the apparatus further comprising a basic input/output system (BIOS) comprising logic to load the one or more diagnostic modules to the first physically addressable area of the system memory.

Claim 40 (previously presented): An article comprising:  
a storage medium comprising machine-readable instructions stored thereon for:

initiating storage of machine-readable instructions for performing one or more diagnostic procedures of a processing system in a first physical area of a memory;

initiating storage of machine-readable instructions for executing an operating system for the processing system in a second physical area of the memory, wherein the operating system is capable of initiating execution of the one or more diagnostic procedures through a firmware interface;

maintaining pointers in the firmware interface to the diagnostic modules at an addressable portion of the memory; and

converting pointers in the firmware interface in response to a change in virtual addressing by the operating system.

Claim 41 (previously presented): The article of claim 40, wherein the one or more diagnostic modules comprise run-time drivers executable through the firmware interface.

Claim 42 (previously presented): The article of claim 40, wherein the diagnostic procedures comprise diagnostic procedures for testing one or more peripheral devices of the processing system.

Claim 43 (previously presented): The article of claim 40, wherein the storage medium further comprises machine readable instructions stored thereon for:

loading the one or more diagnostic modules to a first physically addressable area of the memory; and

loading the operating system to a second physically addressable area of the memory from a non-volatile memory device.

Claim 44 (previously presented): The article of claim 40, wherein the storage medium further comprises machine readable instructions stored thereon for loading the one or more diagnostic modules to the physically addressable area of the system memory from a basic input/output system (BIOS).